ANCHORING OR WEIGHTING SYSTEM FOR PORTABLE ROAD SINGS AND BARRICADES

TECHNICAL FIELD

The present invention relates to a traffic safety device and anchoring system for portable barricades or barriers, portable delineators, road bollards and the like.

BACKGROUND

A conventional portable barricade or barrier comprises an elongate board or plank, horizontally disposed on one elongate side edge thereof, supported at either end by a trestle or other support frame at a pre-determined height above ground level. Often there is a need to anchor the support frames to the ground to provide stability in windy or gusty conditions, or to make the barrier more stable against accidental movement or the like. Traditionally this has been achieved by the use of sand bags or concrete blocks to hold the support frames in place, but such usage can be inconvenient or cause occupational health and safety issues resulting from road maintenance personnel being required to lift heavy sand bags or concrete blocks from a central storage area to the intended barrier site, or their acting as a solid projectile when impacted by a vehicle.

DISCLOSURE OF THE INVENTION

It is an object of the present invention to provide an improved anchoring system for portable barricades or barriers or the like, which goes at least some way towards overcoming or at least minimising the prior art problems or limitations outlined above or for providing a clear alternative choice for potential users.

It is another object of this invention to provide an improved anchoring system for portable bollards, barricades or barriers, or the like, which incorporates a water reservoir as an anchoring means, which can be emptied or filled in situ.

It is a further object of this invention to provide an improved anchoring system of the type described above, which can be adapted for use as a guide post, marker post, bollard or the like, and which can be used as a hazard marker.

PCT/AU00/00640
Received 20 March 2001

It is yet another object of this invention to provide an improved anchoring system of the type described above which is environmentally friendly and which avoids potential environmental pollution from decomposing sand-filled hessian (or burlap) bags.

It is yet a further object of this invention to provide a versatile anchoring system for portable barricades or barriers, or the like, which is relatively simple in construction and relatively inexpensive to manufacture.

These and other objects of this invention will become more apparent from the following descriptions and drawings.

According to one aspect of the present invention there is provided an anchoring system for portable barricades or barriers or the like, comprising a base portion having an outer housing of a rigid or semi-rigid material defining a fluid-fillable cavity space therein, said base portion being adapted to be attachable to or to straddle a part of a conventional portable barricade support frame or trestle to prevent or to restrict relative movement of said support frame or trestle. Optionally, the base portion is adapted to receive and to retain a vertical post member at its upper end for use as a bollard or stanchion, or the like.

More specifically, the present invention provides an anchoring system for portable barricades or barriers, comprising of a base portion having an outer housing of a rigid or semi-rigid material defining a cavity space therein adapted to contain a fluidic ballasting material, said base portion having a preformed raised central region adapted to straddle a part of a portable barricade support frame or trestle cross-bar to prevent or to restrict relative movement of said support frame or trestle, said base portion having an upper surface adapted to receive an upwardly vertically-extending post member, which is attachable to said base portion.

PCT/AU00/00640
Received 20 March 2001

ART 34 AMDT

According to another aspect of the invention, there is provided a portable bollard or stanchion, comprising a base portion having an outer housing of a rigid or semi-rigid material, defining a cavity space therein adapted to contain a fluidic ballasting material, and an upwardly vertically-extending post member attachable to said base portion, wherein said base portion has a raised central region adapted to straddle a part of a portable barricade support frame or trestle cross-bar.

BRIEF DESCRIPTION OF THE ACCOMPANYING DRAWINGS

The invention provides a water-filled vessel to anchor or weigh down barricade trestles, such as "A" frames and barrier boards, thus preventing them from turning over in wind, traffic generated wind gusts or traffic. An addition to this concept is the ability to fit a bollard to the vessel to make it a stanchion in its own right.

The invention will now be further described with reference to the accompanying drawings relating to one possible non-limiting embodiment of the invention. In the drawings:-

FIG. 1 is an exploded perspective view of an anchoring device with a built-in water reservoir and incorporating a guide post or bollard which can be used as a hazard marker or the like;

FIG.2 is a perspective view illustrating a plurality of guide posts or bollards of the type illustrated in FIG.1 marking or defining the outer edge of a roadway or pavement;

FIG.3 is a perspective view of a plurality of guide posts or bollards of the type illustrated in FIG.1 comprising part of a portable barricade; and

FIG.4 is a perspective view of an anchoring device of the type illustrated in FIG.1, anchoring a trestle or barricade support frame.

According to the embodiment illustrated in FIG.1, the anchoring system comprises a truncated inverted V-shaped vessel 2 having a cavity space therein to contain a quantity of water to provide anchorage weight to the device. Ideally, the vessel is made from UPVC material with a volume of up to 20 litres. It includes a cap 14 for the inlet and outlet of water or other fluid. The inverted V-shape is adapted to straddle the lower horizontal cross bar of an A-shaped barricade trestle, as shown in FIG.4. A carry handle is provided at 15.

A vertical post or bollard member 3 is adapted for attachment to the upper truncated end of the vessel 2, preferably by means of a bayonet type fit between the vessel 12 and the lower end of the vertical post 12. The post 3 may include reflective tape 11 as a safety measure for night-time use, and include an identifying logo or other indicia (not shown). The upper end 4 of the post includes a horizontally-extending slot 5 adapted to receive either a single or dual barrier board (16 in FIGS 3 and 4) or the adjacent overlapping ends of horizontally extending barrier boards.

Preferably, the bottom, middle and upper end of the post (3, 4 and 7) is adapted to receive a rope or chain (as at 8, 9 and 10) when same is used as abarrier. Optionally, the upper end 7 of the post may incorporate a warning light, preferably a solar rechargeable light with the post incorporating rechargeable battery means, and photoelectric cell means for automatic on/off switching between day and night. The preferred form of lighting is a LED light or other low energy light means.

This product has many advantages over these traditional methods, the most important being weight and occupational health and safety issues. The anchor can be filled up on site by a water truck negating the need for heavy bags or blocks to be carted from a central storage point to the site. This will have substantial benefits on the employees, eliminating lifting and back pain. It also eliminates the need to fill bags with sand on site, and the need for manual labour for this purpose.

The anchor 1 also has an added advantage over sand bags or concrete blocks in that a guide post, marker post or bollard 3 can be inserted in the bayonet cavity 13 moulded into the top end of the vessel or base 2, thus the anchor can also become a hazard marker.

Once the anchor's duties have ceased, it can easily be emptied by removing the cap and letting the water run onto the ground or into the gutter for disposal. This presents many advantages over traditional methods in that no sand or decomposing bags pollute the environment.

Ideally, the components of the anchor means are moulded from UV stable plastics materials, including UPVC, HDPE and polycarbonates, in any colour according to end-user or safety requirements.

Although an exemplary embodiment of the present invention has been shown and described, it will be apparent to those having ordinary skill n the art that a number of changes, modifications or alternations to the invention described herein may be made, none of which depart from the spirit of the present invention. All such changes, modifications, and alternations should therefore be seen as being within the scope of the present invention.

It should be appreciated that the present invention provides a substantial advance in anchoring means for portable barriers or barricades, or the like, providing all of the herein-described advantages without incurring any relative disadvantages.